

BZ  
CZ  
dx

wherein  $R_1$  is a hydrogen atom or methyl,  $R_2$  is an acid-labile tertiary alkyl group, and  $m/(m+n)$  is 0.5 to 0.8, and wherein  $R_2$  is 2-methyl-2-norbornyl, 2-ethyl-2-norbornyl, 2-methyl-2-isobornyl, 2-ethyl-2-isobornyl, 8-methyl-8-tricyclo[5.2.1.0<sup>2,6</sup>]decanyl, or 8-ethyl-8-tricyclo[5.2.1.0<sup>2,6</sup>]decanyl; and

(b) a photoacid generator (PAG).

## REMARKS

### Summary

By this Amendment, Claims 1 and 5 have been revised, and Claims 4 and 8 have been canceled.

More precisely, in an effort to expedite prosecution and without acquiescing to the Examiner's rejections, Claim 1 has been amended to incorporate the  $R_2$  candidates of canceled Claim 4, except for the 2-ethyl-2-adamantyl and the 2-methyl-2-adamantyl. Likewise, Claim 5 has been amended to incorporate the  $R_2$  candidates of canceled Claim 8, except for the 2-ethyl-2-adamantyl and the 2-methyl-2-adamantyl.

Claims 1-3, 5-7 and 9-18 are now pending in the application.

### 35 U.S.C. ¶102 and ¶103 – Asakawa et al.

Claims 1-3, 5-7 and 9-14 were rejected under 35 U.S.C. ¶102 or ¶103 as being unpatentable over Asakawa et al. (US 6280897), taken alone or in

combination with Kinsho et al. (US 6312867), for the reasons stated at pages 2-8 of the Office Action.

However, these rejections have been rendered moot by the partial<sup>2</sup> incorporation of non-rejected Claims 4 and 8 into independent Claims 1 and 5, respectively.

**35 U.S.C. ¶102 and ¶103 – Fujishima et al.**

Claims 1-13 and 15-18 were rejected under 35 U.S.C. ¶102 or ¶103 as being unpatentable over Fujishima et al. (US 6239231), taken alone or in combination with Hosaka et al. (US 5405720), for the reasons stated at pages 2-6 of the Office Action.

Again, however, it is believed that these rejections have been overcome by the partial incorporation of Claims 4 and 8 into independent Claims 1 and 5, respectively.

That is, in addition to the maleic anhydride, the resin D of Fujishima et al. is made up of 2-ethyl-2-adamantyl methacrylate and 3-hydroxy-1-adamantyl methacrylate. Also in addition to the maleic anhydride, the resin E of Fujishima et al. is made up of 2-ethyl-2-adamantyl methacrylate and methacrylonitrile.

---

<sup>2</sup> As noted previously, 2-ethyl-2-adamantyl and the 2-methyl-2-adamantyl are not included among the R<sub>2</sub> candidates of the amended independent claims.

In contrast, R2 of the presently claimed invention does not include an adamantyl or methacrylonitrile, and instead is now defined as one of the following:

“2-methyl-2-norbornyl, 2-ethyl-2-norbornyl, 2-methyl-2-isobornyl, 2-ethyl-2-isobornyl, 8-methyl-8-tricyclo[5.2.1.0<sup>2,6</sup>]decanyl, or 8-ethyl-8-tricyclo[5.2.1.0<sup>2,6</sup>]decanyl”

Applicants therefore respectfully contend that independent Claims 1 and 5, and the claims dependent thereon, define over the teachings of Fujishima et al., taken alone or in combination with Hosaka et al..

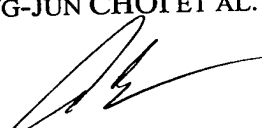
### ***Conclusion***

No other issues remaining, reconsideration and favorable action upon the Claims 1-3, 5-7 and 9-18 now-pending in the application are requested.

Respectfully submitted,

SANG-JUN CHOI ET AL.

By:

  
Adam C. Volentine  
Reg. No. 33,289

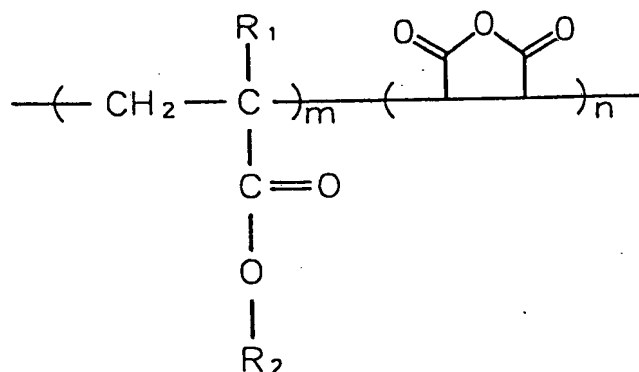
September 24, 2002

VOLENTINE FRANCOS, PLLC  
12200 Sunrise Valley Drive, Suite 150  
Reston, VA 20191  
(703) 715-0870

## ATTACHMENT "A"

### Additions/Deletions to Claims 1 and 5:

1. (Twice amended) A photosensitive copolymer having a weight-average molecular weight of 3,000 to 100,000 and consisting essentially of first and second monomers represented by the following formulae:

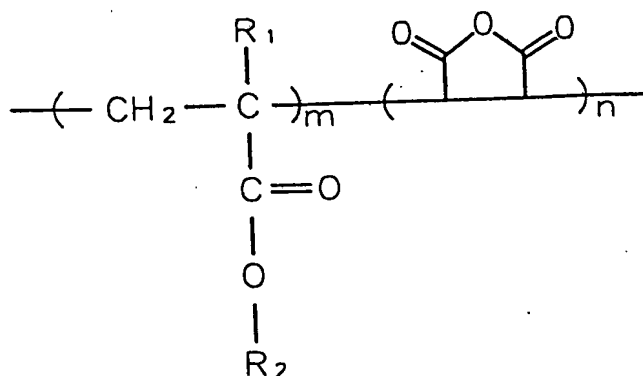


wherein  $R_1$  is a hydrogen atom or methyl,  $R_2$  is an acid-labile tertiary alkyl group, and  $m/(m+n)$  is 0.5 to 0.8, and

wherein  $R_2$  is 2-methyl-2-norbornyl, 2-ethyl-2-norbornyl, 2-methyl-2-isobornyl, 2-ethyl-2-isobornyl, 8-methyl-8-tricyclo[5.2.1.0<sup>2,6</sup>]decanyl, or 8-ethyl-8-tricyclo[5.2.1.0<sup>2,6</sup>]decanyl.

5. A resist composition comprising:

(a) a photosensitive copolymer having a weight-average molecular weight of 3,000 to 100,000 and consisting essentially of first and second monomers represented by the following formulae:



wherein  $\text{R}_1$  is a hydrogen atom or methyl,  $\text{R}_2$  is an acid-labile tertiary alkyl group, and  $m/(m+n)$  is 0.5 to 0.8, and wherein  $\text{R}_2$  is 2-methyl-2-norbornyl, 2-ethyl-2-norbornyl, 2-methyl-2-isobornyl, 2-ethyl-2-isobornyl, 8-methyl-8-tricyclo[5.2.1.0<sup>2,6</sup>]decanyl, or 8-ethyl-8-tricyclo[5.2.1.0<sup>2,6</sup>]decanyl; and

(b) a photoacid generator (PAG).